

Lower American River and Lake Natoma Mercury TMDL CEQA Scoping Meeting

Meeting Summary

Meeting Date: July 8, 2010 (10 am – 12 pm)

Location: Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, #200
Rancho Cordova, CA

Attendees: See below.

Agenda Items:

- Introduce the effort to develop a mercury Total Maximum Daily Loads control program to reduce mercury concentrations in fish in the Lower American River and Lake Natoma (“LAR TMDL”)
- Discuss potential means to address the fish mercury impairment
- Identify potential environmental impacts that could result from attempts to address the fish mercury impairment and possible mitigation measures

Summary:

Patrick Morris (Central Valley Water Board Mercury TMDL Unit supervisor) welcomed everyone, reviewed the purpose of the meeting and meeting logistics, and led a round of introductions of meeting participants.

Stephen Louie (Central Valley Water Board LAR Mercury TMDL Lead) gave a slide presentation that provided:

- An overview of the purpose of the California Environmental Quality Act (CEQA) Scoping Meeting;
- Background information about:
 - Regulatory requirements under the Clean Water Act and Porter-Cologne Water Quality Control Act for Basin Planning and TMDLs;
 - Geographic scope of the TMDL area and beneficial uses;
 - Extent of fish mercury impairment and sources of inorganic mercury and methylmercury
- Preliminary list of possible mercury reduction implementation actions and potentially responsible parties; and
- Outline of CEQA Checklist resource categories.

The following is a brief summary of discussion topics made by meeting participants throughout Mr. Louie’s presentation, organized by presentation slide number:

Slide 15 “Extent of Impairment”, Summary of Fish Tissue Mercury Concentrations

- The group discussed the summary of fish data presented in the table on Slide 15, and questions were brought up about: source and quality of the data, sample size, changes in concentrations over time, and species analyzed.

- The sources of the fish data used are listed on the “Lower American River and Lake Natoma Mercury Information Sheet” and references sheet. Programs include, but are not limited to, the CALFED Fish Mercury Project and Sacramento River Watershed Program. All of the fish data used are from programs with rigorous quality assurance programs similar to those used for the CALFED Science Program and SWAMP. The data include over 100 fish tissue samples (individual and composite) for trophic level 3 and 4 fish in each water body. This table presents only a brief summary of the fish tissue mercury conditions in the Lower American River and Lake Natoma to show the extent of the mercury impairment. A detailed analysis of the fish tissue data will be completed for the development of the numeric target, which will include an analysis of the appropriate species for targets, etc.

Slide 17 “Possible Sources of Methylmercury”

- NPDES dischargers other than MS4s include non-municipal facilities types: groundwater remediation, heating/cooling, aquaculture, and miscellaneous. Currently, none of the other NPDES dischargers have requirements for monitoring methylmercury, however, these dischargers have varying schedules to monitor total mercury in their discharges. A previous review of methyl- and inorganic mercury discharges from NPDES facility dischargers by Water Board staff showed that these types of facilities are not likely sources of inorganic mercury. However, data show that one or more of these types of discharges may be sources of methylmercury.
- The group discussed whether Folsom Lake was a source of methylmercury to Lake Natoma. Others inquired about the sources of methylmercury to Folsom Lake, and the reason for not first attempting to control mercury sources upstream where the mines were located.
 - Methylmercury, total mercury, and suspended sediment have been measured in water flowing from Folsom Lake to Lake Natoma. Twenty-eight lakes and reservoirs in the Central Valley have been listed (approved and proposed) on the CWA Section 303(d) list because of mercury impairment, and a recent SWAMP study showed that 74% of sampled lakes had fish tissue levels above the state’s advisory tissue level for 3 servings per week. These suggest that lakes and reservoirs are likely water bodies with elevated levels of bioavailable methylmercury. Determining the sources of methylmercury to Folsom Lake will likely be necessary before mercury reductions are implemented. Determining sources to Folsom Lake could possibly be an implementation option for the LAR TMDL, in addition, source analysis will be a required component of any future mercury TMDL that may be developed for Folsom Lake.
 - The LAR is a priority for the development of a mercury TMDL control program because:
 - The LAR is the first major tributary upstream of the Delta located on the Sacramento River. Early reductions of mercury directly into the Delta may result in faster reductions in fish tissue mercury levels in the Delta. The Delta Methylmercury TMDL has required mercury reductions for the American River.
 - Because the American River is a major input into the Sacramento River, many programs (SRWP, CALFED, State Toxic Substances Monitoring Program, etc.) have sampled the LAR for mercury in water and fish tissue. A robust dataset are available to calculate numeric targets, loads,

allocations, etc. The USEPA has instructed States “to use the data that are available” to develop TMDL control programs and has placed great pressure on States to develop the TMDLs as quickly as possible.

- The LAR and Lake Natoma are located in a highly urbanized area. A greater population of people may be at risk due to elevated fish mercury levels when compared to upstream reaches.
 - Determining the maximum load of mercury that the LAR can receive to maintain water quality standards will set minimum reductions needed for upstream sources.
 - The LAR and Lake Natoma are located on mine dredge tailings. It is assumed that reducing the amount of mercury located directly in the water bodies will result in faster reductions in fish tissue levels.
- The Central Valley Water Board should incorporate a regional approach, e.g., one side of the valley versus the other (where there is different chemistry), not a kilometer by kilometer approach. The Central Valley Water Board is currently investigating the possibility of developing a valley wide lowland mercury TMDL to incorporate all rivers below major dams.

Slide 20 “Addition to the Basin Plan: COMM”

- Water Contact Recreation (REC-1) includes uses of water for recreation, where the ingestion of water is reasonably possible. Commercial and Sport Fishing (COMM) includes uses of water for the collection of fish with the intention of human consumption or bait purposes. REC-1 does not specifically state that the fishing will be intended for the consumption of fish, where as, COMM does. The addition of COMM is a confirmation that the use requires protection, and its addition is not believed to increase the consumption of fish in the LAR or Lake Natoma nor conflict with REC-1.
- People have been seen harvesting clams, possibly corbicula, near the fish hatchery and Nimbus Dam. A question was raised about the risk to people that may be consuming clams. Only one clam tissue mercury concentration sample was available for the LAR with a wet weight equivalent concentration of 0.04 ppm. The OEHHA 2009 Update of California Sport Fish Advisories contains Asiatic clam data from the South and Central Delta, Lower Cosumnes River, and Lower Mokelumne River with mean mercury concentrations of 0.05, 0.04, and 0.03 ppm, respectively. The consumption advisories allow 5 to 7 meals per week for men and women over 47 years of age. Women of childbearing age and children are advised to eat no more than 2 meals per week, if the clam mercury concentrations are as high as 0.05 ppm, and as much as 7 meals per week, if the clam mercury concentrations are as low as 0.03 ppm. It appears that the risk to consumers of clams is low. A reduction of methyl- and total mercury in the LAR and Lake Natoma will likely reduce mercury concentrations in fish and clam tissue.

Slide 21 “CEQA Checklist for the Addition of COMM”

- It is not believed that the addition of COMM will increase the amount of source load reductions necessary to meet water quality standards. In turn, the addition of COMM is not believed to affect any of the resources on the CEQA checklist.

Slide 22 “Addition to the Basin Plan: Possible Numeric Fish Tissue Objectives for Methylmercury”

- The fish tissue objectives for the LAR and Lake Natoma will be developed using fish and water mercury data specific to these water bodies. To our knowledge, no fish

consumption surveys have been conducted specific to the LAR watershed. However, regional consumption surveys, the USEPA recommended default fish consumption rate, as well as, the Delta Methylmercury TMDL and other mercury control programs' recommended consumption rates will be considered for the development of this TMDL.

- The USBR staff commented that the possible fish tissue objective(s) and the resulting possible changes in water operations would have to consider existing mandates for flow, safety, temperature, salmon rearing, etc. and economic effects. They also encouraged Water Board staff to work with USBR staff to evaluate which mercury reduction programs could effect USBR operations. Any proposed changes to the Regional Board Basin Plans must be consistent with existing federal and state laws and adopted State and Central Valley Water Board policies. Under the Federal Antidegradation Policy (40 CFR §131.12) Water Board must protect the existing instream water uses and the level of water quality to maintain those water uses. Water Board staff will encourage the exchange of information with USBR staff and other stakeholders to developing the mercury control program and to determine the possible adverse environmental impacts of the project.
- The group discussed the possibility that if fish tissue mercury levels were reduced to safe or safer levels, then there would be increased pressure on fish populations due to increases in human fishing. The Water Board may need to consult with fisheries biologist familiar with the fish populations in the LAR and Lake Natoma to evaluate these impacts on Biological Resources.

Slide 24 & 25 "Possible Implementation Actions"

- The effects of actions to reduce mercury could negatively affect efforts to control other pollutants of greater concern, e.g. for stormwater, making changes to control more mercury (which they are a small source), could make them discharge more pesticides (which they are a major contributor). As stated earlier, the goal of the Basin Plan Amendment is to protect all beneficial uses. Any information on how potential mercury controls could affect the effectiveness of current operations, BMPs, etc. will be useful in the development of the mercury control program and implementation actions.
- The group discussed the possibility of controlling sulfate and pH as a mean of controlling methylation rates in the LAR and Lake Natoma, given their relationships with methylation. The mercury control program will attempt to address all controllable factors to reduce mercury concentrations in fish tissue.

Slide 26 "Potential Responsible Parties"

- The LAR mercury control program will employ a phased, adaptive management approach. This phased approach will allow the modification of methyl- and total mercury goals, objectives, allocations, and/or compliance dates to ensure that the policy is continually improved by the knowledge of the outcomes from the implementation and monitoring programs and future scientific information.
- Water Board staff has identified possible sources of methyl- and total mercury to the LAR and Lake Natoma. All of the listed sources possibly could be responsible to make reductions. The actual sources required to make reductions will be determined depending on the development of the TMDL, results of possible control studies, etc.
- A series of stakeholder meetings are planned during the development of the LAR TMDL. Water Board staff will be soliciting information/feedback regarding implementation options, environmental impacts, feasibility of control actions, etc. from the beginning of the project.

Slide 27 “CEQA Checklist for the Implementation Actions”

- Possible environmental impact concerns that were discussed were:
 - Increases of greenhouse gases due to LAR flow adjustment mercury controls that may decrease the availability of hydropower and increase the reliance on coal burning electricity production.
 - Protection of cultural resources by coordinating with the National Preservation Act, State Historic Preservation Office, and the State Preservation Act.
 - These topics will be included in the detailed CEQA evaluation of environmental impacts.
- The group discussed the possibility that if the mercury control program does not reduce fish tissue concentrations to a level safe for consumption, then increasing education would be the only option to reduce risks from eating mercury contaminated fish. Education may reduce the risk to human consumers, however, risk to wildlife consumers would not be reduced. This mercury control program will employ a phased, adaptive management approach. Through this approach, the effectiveness of the control program and implementation actions and the feasibility of each sources’ load reductions will be evaluated. If applicable, adjustments will be made to the control program, and then the program will be reevaluated. The Basin Plan’s Controllable Factors Policy states that controllable water quality factors caused by human activities may not be allowed to cause further degradation of water quality in instances where other factors have already resulted in water quality objectives being exceeded. If the beneficial use is not being protected once all reasonable controllable measures have been implemented, then it may be appropriate to review the water quality standards to determine whether the beneficial uses and/or applicable standards are appropriate.

Slide 28: “Schedule and Next Steps”

- The TMDL and BPA will be developed by Water Board staff with the input from stakeholders.
- During the first phase of the implementation program responsible parties will likely be responsible for conducting studies to determine: sources of methylation in operations, BMPs etc., ways to control methylation, ways to control discharge of methyl- and total mercury, etc.
- Water Board staff encourage stakeholders to provide information regarding the feasibility of possible requirements, implementation actions, and mercury controls.
- The development of an offset program is a possibility for dischargers that may be able to display an immediate benefit to the mercury impairment at a lower cost if offsite mercury controls are performed. Please see the draft “Adaptive Management Plan for Implementing the Delta Methylmercury Control Program” for more information regarding the Mercury Offset Program.
- Website links to the resources developed by the Delta TMDL, such as the guiding principles, offset development principles, draft Adaptive Management Plan, and Basin Plan amendment with control program will be provided to stakeholders.
- The USEPA shall be involved with the development of this TMDL.

Patrick Morris closed the discussion by thanking the participants for their ideas and time and noted that it would be great if we had a group of stakeholders who could come to each meeting. He said that there will be another meeting in 4-6 weeks after Board staff has had a chance to think about the comments and concerns heard during the Scoping meeting.

Next Steps:

- Central Valley Water Board staff will:
 - Post the final version of the CEQA Scoping Meeting summary on the Internet at the Board's website on July 23rd. This will include as attachments any written comments submitted after the CEQA Scoping Meeting.
 - Email web links to resources developed by the Delta Methylmercury TMDL stakeholder group that might be useful for the development of the LAR TMDL.
 - Organize a LAR TMDL follow-up meeting in about four to six weeks.
- Participants can continue to submit comments and questions to Stephen Louie (sjlouie@waterboards.ca.gov) regarding the TMDL development process and possible mercury/methylmercury reduction options and potential environmental impacts resulting from possible mercury reduction options. **If participants want their comments included in the meeting summary that will be made available online on July 23rd, they should email their comments by July 22nd.** People can send comments after this date as well; although the comments will not be in the CEQA Scoping Meeting summary, they will be entered into the Administrative Record for this project.

Handout: Copy of Stephen Louie's slide presentation, available at:
http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/american_river_hg/

**Lower American River and Lake Natoma Mercury TMDL
CEQA Scoping Meeting
July 8, 2010**

Attendees

Bill Christner, ECORP
Brad Gacke,* SMUD
Brian Currier,* CSU Sacramento
Bryan Vyerberg,* El Dorado County
Chris Hammersmark, cbec eco engineering / Water Forum
Daniel Sholl, California Sprouts
Dave Robinson, U.S. Bureau of Reclamation
Dave Tamayo, Sacramento County SWP
Diane Fleck,* U.S. Environmental Protection Agency
Erik Ringelberg, BSK Associates
Gene Lee, U.S. Bureau of Reclamation
Hong Lin, City of Sacramento
Hope Taylor, Larry Walker Associates
John Fields, U.S. Bureau of Reclamation
Leanna Zweig,* U.S. Fish & Wildlife Service
Leonard Levin*
Lysa Voight, SRCSD
Mark Biddlecomb, Ducks Unlimited
Mark Rains, Sacramento County DWR
Michelle Wood, Central Valley Water Board
Patrick Morris, Central Valley Water Board
Patrick Wong,* Larry Walker Associates
Refael Klein, Larry Walker Associates
Robyn Alongi, California Dental Association
Sherri Norris,* California Indian Environmental Alliance
Stephen Louie, Central Valley Water Board
Steve Michelson,* Applied Water Resources
Tom Mauer,* U.S. Fish & Wildlife Service

** People who attended by Webinar/conference call.*